

Patent claims

1. A heat exchanger, especially a charge-air cooler
5 for motor vehicles, with flat tubes (9) having tube
ends (9a), and with header boxes (1) which are
connected, especially soldered, to tube bottoms (4),
the tube bottoms (4) having orifices (8) with
longitudinal sides (8a) and narrow sides (8b) for
10 receiving the tube ends (9a), furthermore edge strips
(5, 6) and transitional regions (12, 13) of channel-
like design between the narrow sides (8b) and the edge
strips (5, 6), and the tube ends (9a) being soldered in
the orifices (8), **characterized** in that the
15 transitional regions (12, 13) have a reinforcement.

2. The heat exchanger as claimed in claim 1,
characterized in that the reinforcement is designed as
a material thickening.

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3. The heat exchanger as claimed in claim 1,
characterized in that the reinforcement is designed as
a stiffening, especially as a bead.

25 4. The heat exchanger as claimed in claim 1,
characterized in that the reinforcement is designed as
a profile strip which at least partially fills the
transitional region (12, 13) and which is soldered to
the tube bottom (4).

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5. The heat exchanger as claimed in claim 4,
characterized in that the profile strips (18, 19) are
produced in one piece with the header box (17).

35 6. The heat exchanger as claimed in claim 4,
characterized in that the profile strips are designed
as insert strips (11, 12).

7. The heat exchanger as claimed in claim 4, 5 or 6, characterized in that the orifices are designed as inwardly directed rim holes (8), and in that the profile strips (10, 11) have recesses (10a, 11a) which
5 are adapted to the form of the narrow sides (8b) of the rim holes (8).

8. The heat exchanger as claimed in one of the preceding claims, characterized in that the orifices
10 are designed as outwardly directed rim holes.